EXHIBIT 9

Quest Engineering & Failure Analysis, Inc.
www.quest-engineering.com

June 14, 2024

Ms. Tedra Cannella
Cannella Snyder LLC
PO Box 1399
Decatur, GA 30031

Re: Rebuttal Report

File: Bryson Accident
Quest No: 10519

Dear Ms. Cannella:

This report presents additional opinions or updates to my prior opinions based on new material received since my prior October 12, 2023 report, January 23, 2024 deposition, and May, 8, 2024 amended report regarding the Bryson accident.

Work Performed

In addition to the materials listed in my previous report, I have received the following information which I have reviewed and analyzed:

- Report and deposition of Grimes (Mechanica)
- Report and deposition of Crosby (Exponent)
- Scan data, photos and video data from the crash test performed by Grimes and Crosby
- Grimes' file materials

Based on the above, I understand that Exponent performed a crash test for Rough Country's accident reconstructionist, Grimes, using exemplar vehicles. According to Grimes' deposition (page 161), the purpose of the test was "to explore what type of intrusion would occur without the lift kit on the vehicle. We're not trying to recreate it because we don't have cargo in the back."

As a result of my review of the above materials I have observations and criticisms of the Grimes/Crosby crash test regarding its validity for scientific analysis of the subject crash and of the purported crash

test results/conclusions offered by Grimes. The test parameters regarding speed, vehicles used, vehicle elevations, and similar information from the crash test is contained in the Exponent report.

For the purposes of this report, events or vehicles in the Grimes/Crosby crash test performed on May, 15, 2023 will be referred to as the "**test**" and the accident or the accident vehicles will be referred to as the "**accident**."

Observations

Based on the crash test materials provided to Quest, I have made the following test related observations that support my opinions or concerns regarding Grimes' report and testimony:

1. The total crush on the **test** Escape is significantly less that in the **accident**.
2. The total crush on the **test** F250 is more than in the **accident**.
3. The slope of the crash pulse between the **test** vehicles was greater than the **accident** vehicles.
4. The vehicle-to-vehicle force was greater in the test than in the accident.
5. The **test** F250 did not override the **test** Escape as occurred in the accident.
6. The **test** F250's bumper struck the **test** Escape's bumper flush because of the absence of the Rough Country lift kit.
7. The test resulted in less rear seat deflection and movement than in the accident.
8. The **test** lateral offset was significantly different from the **accident** offset (the **test** F250 struck the **test** Escape 4 to 6 inches further towards the Escape driver's side than in the accident).

Based on the crash test materials provided to Quest and my reading of Grimes' report and testimony, I have made the following test related observations that support my opinions and concerns regarding Grimes' observations or opinions:

1. Grimes does not know what the vehicle offset was in the test.
2. The test did not provide markers to record what the **test** vehicle offset was.
3. Grimes does not know if the centerline tape was along the centerline of the **test** vehicles (page 190).
4. The test did not place the overhead camera in a manner to record the **test** offset clearly (212).
5. The location of the rear of the **test** Escape was not recorded with respect to the track centerline prior to the test, only the location of the **test** Escape front was recorded.
6. The target location of the **test** F250 was not painted or marked on the runway surface to confirm the **test** F250 was properly positioned at first contact.
7. The **test** impact is described as an override event even though **test** video footage and vehicle photos post collision clearly demonstrate it was not an override.
8. Grimes states his **test** crush depth determinations were based on his visual analysis of the vehicles and scans and cannot give any match points he used to align the scans (214, 216).
9. Grimes provides no measurements of **accident** crush, **test** crush, or measurements of the differences of crush; he simply states he was "just looking at the two vehicles and looking at photographs" (205) even though he was in the presence of all four vehicles and has scans of all four vehicles to have made measurements from.
10. Grimes does not know if the **test** F250's intrusion into the **test** Escape was at a lower height than in the accident (214).
11. Grimes did not weigh the **accident** vehicles (109).

12. Grimes decided not to place the cargo in the **test** Escape (94).
13. Grimes admits the rear seat deformation in the **test** Escape was less than in the **accident** Escape but only considers the reason to be a lack of cargo in the **test** Escape (198).
14. Although sunroofs necessarily have different support structures than non-sunroof vehicles, Grimes allowed the use of a **test** Escape that had a sunroof to be used in the test when a second **test** Escape that did not have a sunroof (like the **accident** Escape) had been purchased and was available.

Based on Grimes' deposition, Grimes states that for the test, he "want[ed] to match as closely as we reasonably can the speeds, the weights, the offset, the angles…all of that as much as we can" (deposition page 172). Based on my reading of Grimes' testimony, I understand that Grimes had the vehicles, materials and facilities available to perform a crash reenactment at the F250 impact speed he theorizes was present in the accident, yet he failed to perform this reenactment. The aforementioned is significant because as he states in his deposition (page 147), the actual **accident** F250 impact speed may have been as low as 43.9 mph, as opposed to the 49.9 mph used in the crash test. Fundamentally his opinions require the test to be run at the same speed as the accident. An F250 impacting at 43.9 mph has only 77% of the energy available to damage an Escape compared to an F250 impact at 49.9 mph. If Grimes' intention was to match as closely as he reasonably could the speeds of the test versus the accident, he needed to first establish the speed of the truck in the accident. He could have easily done so by crashing a lifted truck into an Escape (the second set of available vehicles) at his opined speed and then running his non-lifted vehicle at the same speed.

Currently, all of Grimes' opinions are based on the assumption that the **test** and the **accident** impact speeds are identical, yet he cannot support this assertion. Had he run a test with lifted vehicles, he could have supported this assumption. Basically, his opinion is that the lift made no difference; however, in science to state the effect of changing one variable (the presence vs non presence of a lift kit) only the lift kit variable can be allowed to change in the tow tests. Because Grimes cannot state that he has two tests where the only differing variable is the presence or non-presence of the lift kit, he has no scientific basis of his opinion that the lift kit makes no difference. All he can reasonably conclude is that the combination of possible differing speeds, offsets, lift kits, sunroofs, and weights composed the differences but he cannot state which has more or less effect.

Based on Grimes' deposition, he repeatedly asserts that the main reason the **test** Escape rear seat received less crush than the **accident** Escape rear seat was because of a lack of cargo in the **test** Escape trunk. Grimes gives this opinion even though he:

- does not know the strength of the cargo (page 199)
- does not know the strength of the seat (200)
- did no testing (198)
- did no calculations (198)
- has no literature to support this opinion (198)
- does not know where the cargo was located in the trunk (173, 193)

Grimes' repeated claim that the presence of cargo in the trunk of the Escape is the significant difference to the diminished rear seat displacement has no sound basis. In addition to the above list of deficiencies, Grimes also decided not to place cargo in the trunk so he assured there would be no test data nor photographic or visual information available from the test relative to the cargo to either

support or deny his claims. His apparent reliance on the concept that the cargo is so significant that it can affect crash test results is contradictory to his decision to intentionally omit the cargo from the test. If it is significant, then it must be included in the test. Grimes states that, but for the presence of cargo, there is only empty space to resist forward movement of the tailgate into the Escape (deposition page 211); however, this concept ignores that much more than the tailgate alone is being engaged and that the tailgate is well supported by the roof, floor, and vehicle sides. Grimes could not even determine the position of the cargo when he inspected the **accident** Escape, apparently because of the lack of imprints or clear seat damage matching the cargo's actual location in the trunk. This fact belies his assertion that the cargo caused the seat displacement. The actual difference probably was that the **test** F250 was 6 inches lower than the **accident** F250 and therefore engaged the stronger bumper level structures of the **test** Escape, but Grimes does not even know the elevation differences in the Escape test vs accident crush per his deposition (page 214).

Analysis

Crush

An analysis was performed to verify if there actually was more crush in the **test** than the **accident** Escape, as opined by Grimes (deposition page 210). The 3D scan of the **accident** Escape and the **test** Escape were overlaid using the undamaged front end of the vehicle. Then, cross sections of the both vehicles were taken at eight elevations and were compared. The analysis revealed that relative to the child location, there is more crush on the **accident** Escape at every elevation. *Figure 1* shows the **accident** Escape scan (black) and **test** Escape scan (orange) overlayed. Because the **test** Escape's orange color is more visible, it is more exposed and thus has less crush than the **accident** Escape.

***Figure 1**: 3D overlay of the **accident** Escape (dark) and **test** Escape (orange)*

Further, the frame of the **accident** Escape (green tape identified) protrudes beyond the **test** vehicle, concretely demonstrating the override in the accident vs the non-override in the test. Directly behind the rear seat occupant's position, the test had 9 inches less cush.

The point of maximum engagement between the **test** vehicles is in the crash test video. When comparing the crash test to the 3D model of the **accident** vehicles at maximum engagement, there was less penetration into the rear passenger compartment than on the accident Escape (*Figure 2*).

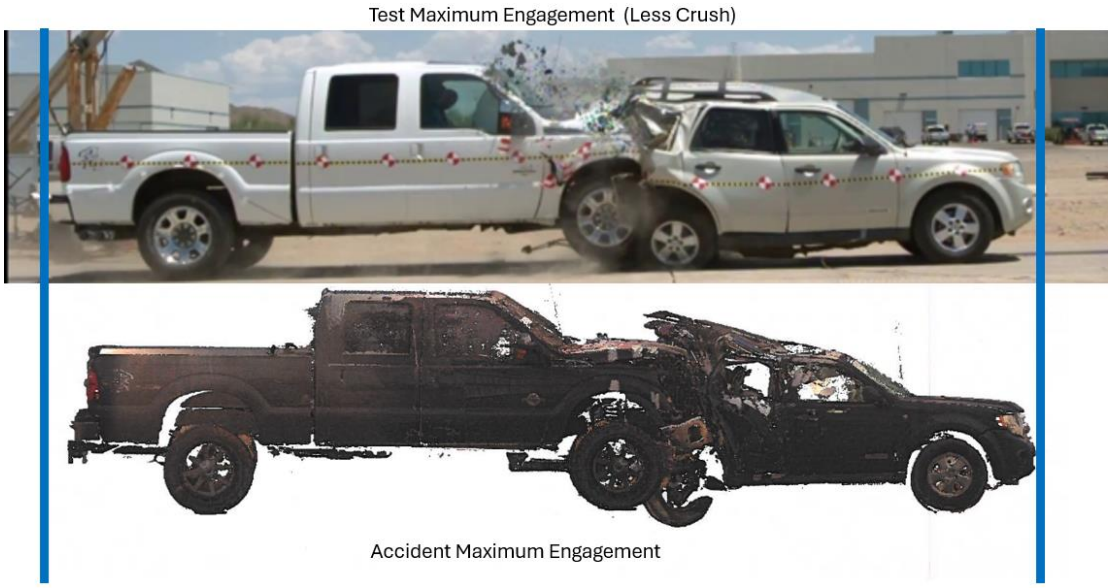

***Figure 2**: Comparison of Maximum Engagement*

Offset

Exponent and Grimes failed to properly record the **test** offset as outlined above, and Grimes states that a **test** offset variance of 5 inches from the **accident** offset will make a difference (deposition page 184). Quest has performed three separate analyses to determine the **test** vehicles' offset compared to the **accident** vehicles offset and we have discovered a variance of 5 inches ± 1 inch. We should not have needed to perform this analysis because in standard crash testing, the offset should be sufficiently recorded by the test facility and verified by the reconstructionist. Quest discovered the discrepancy because the Ford logo on the striking F250 left imprint marks on both the **test** and **accident** Escape. These logos are displaced laterally 5 inches ± 1 inch from each other, meaning that the **test** F250 missed hitting the **test** Escape in the proper location. Since the **test** F250 hit to the left of the accident location, there was less width of the **test** Escape available to resist the **test** F250 and therefore the resulting **test** Escape crush would have been amplified. Thus, again, the test is not an adequate basis for Grimes to use for his opinions. The Ford logo imprints are shown in the following two photographs (*Figure 3*). Crosby confirmed the presence of the logo imprint whereas Grimes did not remember it.

Of the three methods Quest used to determine the **test** offset, two of the three used the logo imprint and one used crash test video (*Figure 3*). For this crash test to be repeatable, a proper crash test methodology would have needed to be performed to establish readily identifiable markers to record that the crash test struck the proper location consistent with the accident.

The first method involved producing a photomodel of the **test** vehicle and the **accident** vehicle using photos where the logo imprint is visible. The imprint was still visible on the **accident** Escape in the

photos taken by Jeff Kidd on April 3, 2020 and the **test** Escape's imprint was visible in Exponent's crash test photos. The photos were sufficient to create a photomodel of the rear of both vehicles. The photomodels were then scaled using measurements from the scans of the respective vehicles. The imprints were then measured from the centerline of the Escape, which resulted in a difference of 4.7 inches laterally (*Figure 4*).

***Figure 3A**: Crash test photo 12327PH_0385*

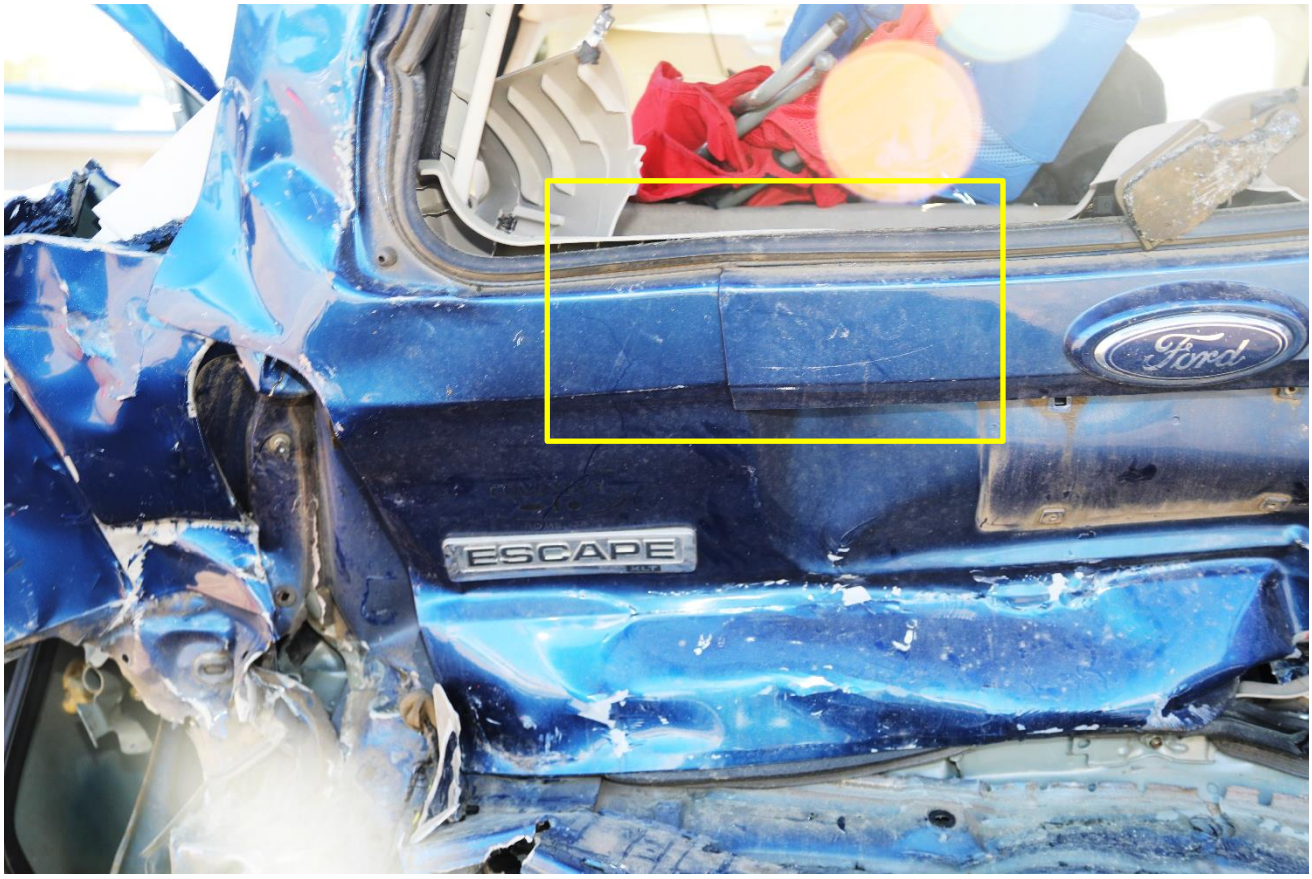

***Figure 3B**: Jeff Kidd 4/3/2020 inspection photo 106*

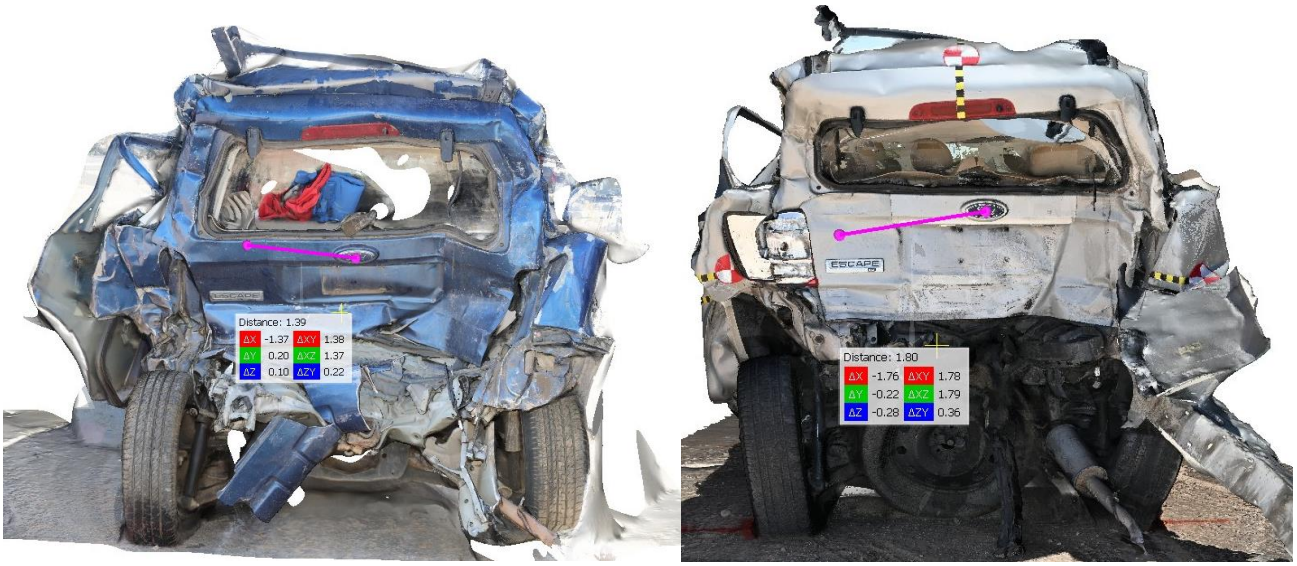

***Figure 4**: **Accident** Escape and **test** Escape photomodels with measurements from centerline to left edge of Ford logo imprint*

The second method used to determine the difference in offset between the **accident** and the **test** was by using photogrammetry. The imprint on both vehicles was visible in photos. PhotoModeler Premium was utilized to determine the camera parameters by correlating the 2D data with the 3D scan. After

the camera parameters were solved, the photo was measured, which resulted in a difference of 4.9 inches laterally (*Figure 5*).

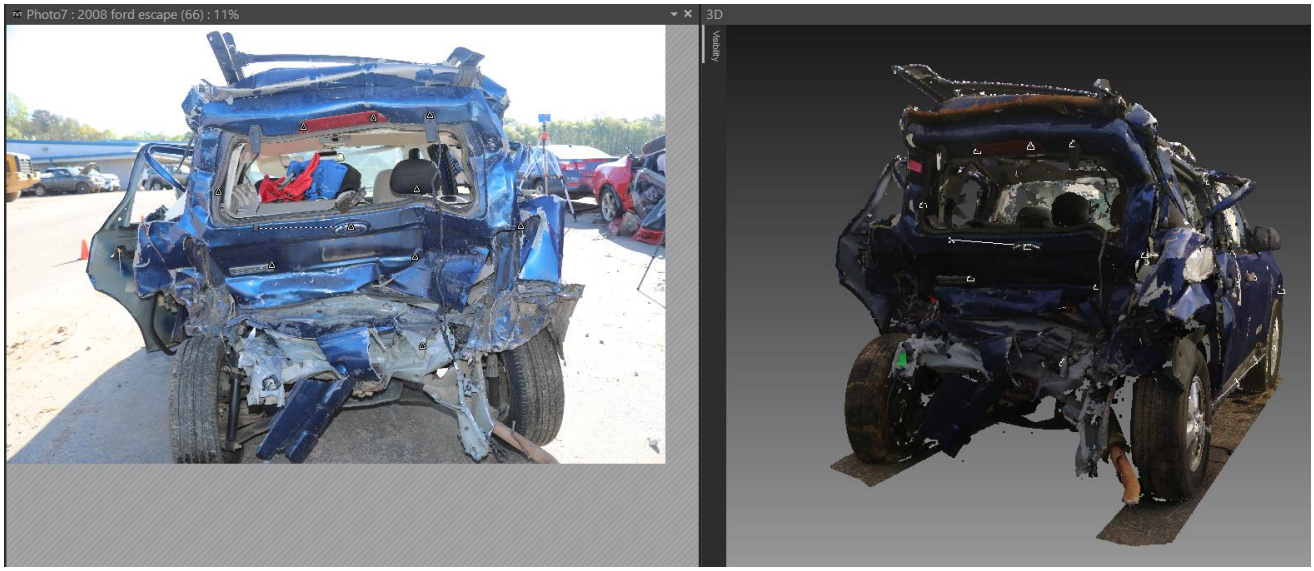

***Figure 5A**: Photogrammetry analysis of the **accident** Escape*

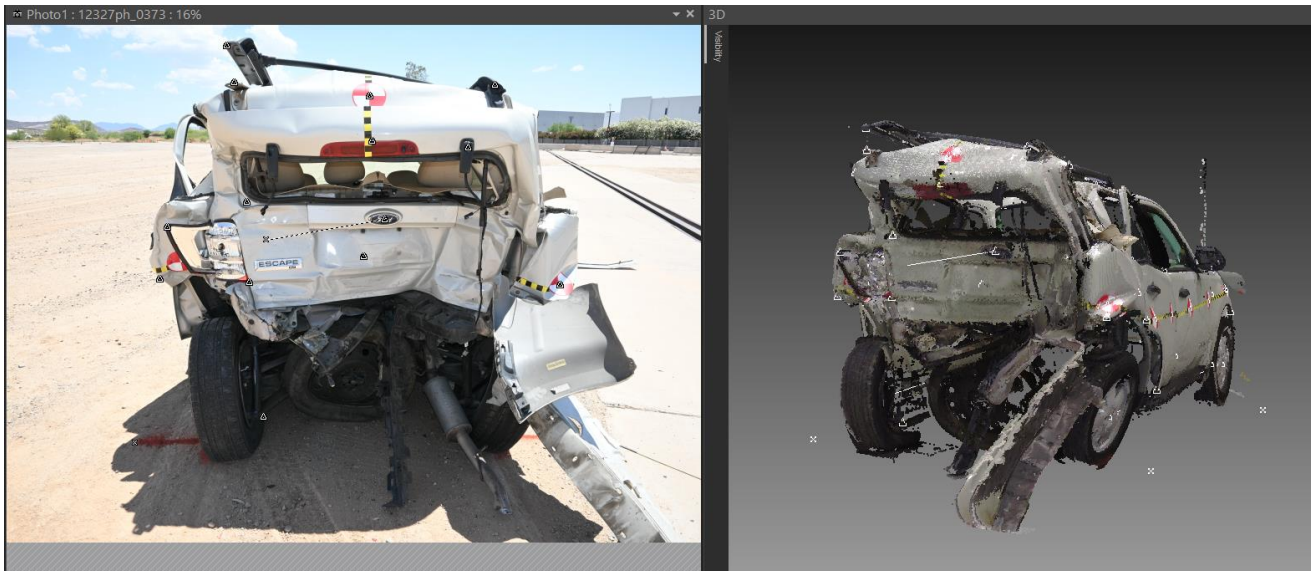

***Figure 5B**: PhotoModeler Premium analysis of the **test** Escape*

The third method used the top-down crash test video and frames. A frame at first contact was scaled in AutoCAD which allowed for the measurement of the difference between the centerlines of the vehicles, which were marked for the crash test. Because of the perspective in the camera, there was a range for the offset between the vehicles in this analysis, which resulted in a difference of 4.1 inches to 6.1 inches laterally (*Figure 6*).

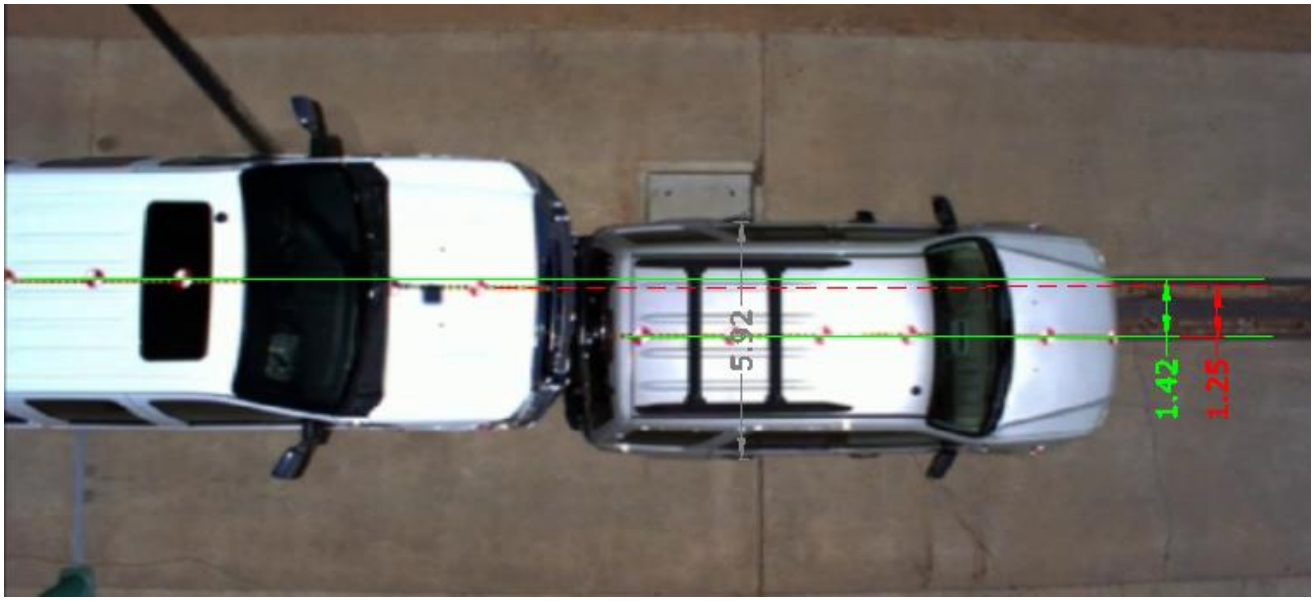

***Figure 6**: Scaled image from crash test video with the total offset measurements*

As identified above, the crash pulses of the **test** F250 and the **test** Escape can be compared with respect to generally accepted principles of classical physics and accident reconstruction. The two F250 crash pulses are shown below (*Figure 7*). In engineering, the rate of change of velocity is the acceleration and by Newton's Law of Motion is directly related to the applied force. Thus, the steeper the crash pulse, the greater the applied force. Since the test "change of velocity pulse" verses "time pulse" is steeper, it represents greater deceleration of the **test** F250 per unit time and thus greater applied force on the front of the truck to slow it down faster. The source of this force is, of course, the presence of the **test** Escape. Because there is a greater force in the test, the **test** Escape was stronger in the region impacted than in the accident even though there was less of the Escape available directly in front of the **test** F250 to resist the truck (because of the offset problem shown above). The steeper crash pulse does demonstrate that when impacted at the lower elevation, the Escape provides more resistance and therefore is stronger and because energy is the product of force and distance, the crush distance mathematically must be lower. Thus, just from the accelerometer data recorded in the **accident** and **test** F250's, and using physics, the lift kit resulted in an increased amount of **accident** Escape crush when compared to an impact with a non-lifted F250. The calculations are as follows:

- **Accident** F250 Crash Pulse slope from 31 ms and 5.10 mph to 91 ms and 14.96 mph is -7.5 g's
- **Test** F250 Crash Pulse slope from 34 ms and 5.24 mph to 94 ms and 16.42 mph is -8.5 g's
- **Test** Deceleration Minus **Accident** Deceleration equals one G (the weight an F250 or about 8500 to 9000 pounds)

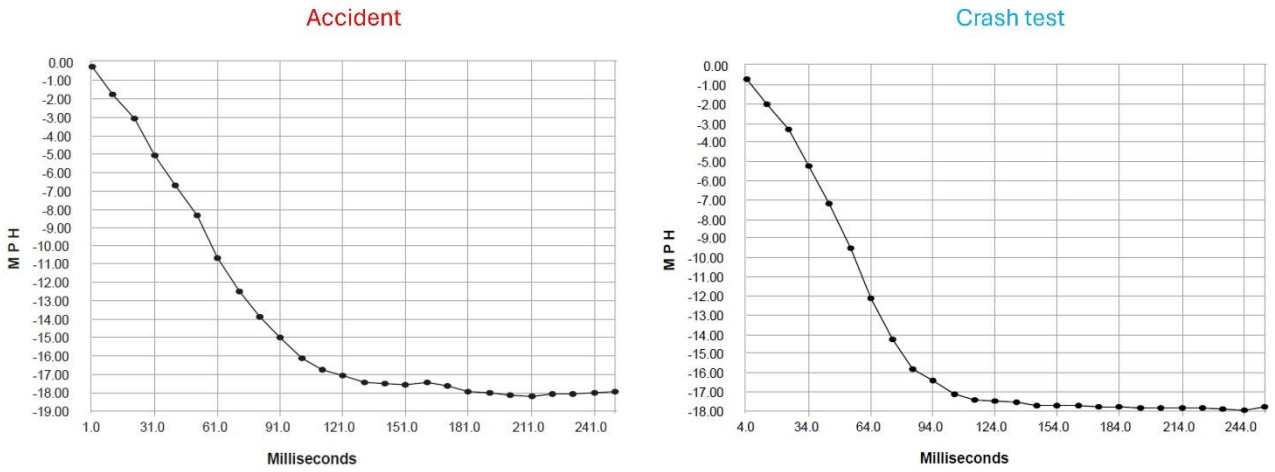

***Figure 7**: Longitudinal crash pulse comparison*

Thus, when the lift kit was removed from the F250, the **test** Escape was able to generate about 8,500 to 9,000 pounds more force to resist crush than when struck by a lifted truck because the bumper level structures of the Escape were better engaged as it was a bumper-to-bumper level impact. The actual increase in resistive force would have been higher had the offsets been proper because there would have been more lateral overlap by 5 inches and thus even more of the Escape structure would have been directly engaged.

My opinions are given within a reasonable degree of engineering certainty. They are based on generally accepted principles of science, engineering, and accident reconstruction, on methodologies generally accepted within the engineering and accident reconstruction communities, and our work to date. To the extent additional evidence becomes available that affects my opinions, I will update my opinions accordingly.

My qualifications are detailed in the previously produced curriculum vitae, a list of all cases in which I have given expert testimony during the last four years, and my hourly rate for work in this case which is outlined in the fee schedule.

Sincerely,

QUEST ENGINEERING & FAILURE ANALYSIS, INC.

G. Bryant Buchner

G. Bryant Buchner, P.E.
Chief Engineer